

REMARKS/ARGUMENTS

Favorable consideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-26 are pending in the application, with Claims 1, 16, and 25 amended by the present amendment.

In the outstanding Office Action, Claims 1-8, 10-14 and 16-26 were rejected under 35 were rejected under 35 U.S.C. § 102(e) as being anticipated by Feinberg et al. (U.S. Patent No. 6,798,745, hereinafter Feinberg); and Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Feinberg et al. in view of Veres et al. (U.S. Patent No. 6,807,156, hereinafter Veres); and Claim 15 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Feinberg et al. in view of Dziekan et al. (U.S. Patent No. 6,704,288, hereinafter Dziekan).

Independent Claims 1, 16 and 25 are amended to recite "a cable-modem hour metric." Support for these amendments is found in Applicants' originally filed specification.<sup>1</sup> No new matter is added.

Briefly recapitulating, amended Claim 1 is directed to a system for use with a broadband network. The system includes a) a network-metrics apparatus configured to obtain first metrics of performance of at least a portion of the broadband network; b) a data-processing apparatus coupled to the network-metrics apparatus and configured to combine a plurality of first metrics into a second metric of network performance indicative of a higher-level of network performance than indicated by the first metrics; and c) a data-arranging apparatus coupled to the data-processing apparatus and configured to arrange at least a portion of the first metrics and the second metric into a predetermined format. The second metric comprises a cable-modem hour metric. Independent Claims 16 and 25 are directed to

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<sup>1</sup> Specification, page 8, lines 11-22.

alternative embodiments of Applicants' invention, each reciting a cable-mode hour metric. Applicants claimed cable-modem hour metrics are derived metrics that are used to efficiently manage, troubleshoot, and optimize extremely large scale networks with many intelligent devices in a scalable way.

Feinberg discloses a network performance metric named a Quality of Service (QoS) parameter value is derived and compared to a threshold to identify a problem with a VoIP call and which is then used to make a decision to disconnect some active calls to guarantee the QoS of the remaining calls. However, contrary to the Official Action, Feinberg does not address network parameters. Instead, Feinberg describes calculating the QoS parameter value for one of a set of phone calls. Furthermore, Feinberg does not disclose displaying metrics over time, or using derived metrics to identify and isolate network issues.

In addition, Feinberg fails to disclose or suggest Applicants' claimed cable-modem hour. The QoS parameter in Feinberg is a quite different basic metric than a cable-modem hour in several aspects. The QoS Parameter value of Feinberg is a derived piece of network data such as packet loss or packets lost per second which is a metric directly representative of either what happened on the network or the state of the network.<sup>2</sup> Other network data mentioned in Feinberg are jitter, latency, or out of sequence packets. These parameters relate to a physical quantification of the state of the network. In Feinberg, the network data is compared to a threshold and, as a result, an action may be taken.<sup>3</sup> No additional quality metric is derived, only action taken. Thus, the network data of Feinberg is analogous to block 126 of Applicants' Figure 7, whereas Applicants' claimed cable-modem hour is a quality metric as shown in block 128 of Figure 7 and which is derived from network data.

In other words, Applicants' claimed cable-modem hour metric is a quality metric quite different from the network data of Feinberg in that Applicants' claimed cable-modem

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<sup>2</sup> Feinberg, column 5, lines 18-25; column 4, lines 20-35.

<sup>3</sup> Feinberg, column 6, lines 38-56.

hour metric describes the *relative* quality of the network data such as degraded, severely degraded or non-degraded, as opposed to a physical quantity. For example, a physical quantity of CNR is measured in dB, but a quality metric associated with CNR such as degraded modem hours describes the amount of time that the CNR was in a relative state of degradedness. Thus, in Applicants' terminology, a quality metric does not describe a specific physical quantity in dB but, instead, abstracts the physical quantity into a more qualitative value. This qualitative abstraction has many useful properties and includes an ability to aggregate values over time and topology while maintaining significance of degrading events in a single value. This is contrasted with physical characteristics (e.g., the packet loss network data value described by Feinberg) which a) loses significance as it is averaged over time and b) loses relevance when averaged over network topology.

As noted above and in Applicants' specification, use of a quality metric such as cable-modem hour results in a reduction of a very complex analysis into a scalable derivation of quality metrics. Applicants submit no quality metrics as shown in block 128 of Applicants' Figure 7, let alone Applicants' claimed cable-modem hour, are disclosed or suggested by Feinberg. Further none of the steps to further combine the degraded modem hour "quality metrics" are not combined into further summary quality metrics, or displayed to users to further manage the network as described in blocks 130-134 of Figure 7, and as recited in Applicants' dependent claims, are described or suggested by Feinberg.

MPEP § 2131 notes that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art." *Brown v. 3M*, 265 F.3d

1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001) (claim to a system for setting a computer clock to an offset time to address the Year 2000 (Y2K) problem, applicable to records with year date data in "at least one of two-digit, three-digit, or four-digit" representations, was held anticipated by a system that offsets year dates in only two-digit formats). See also MPEP § 2131.02. "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Because Feinberg does not disclose or suggest all the features recited in Claims 1, 16 and 25, Feinberg does not anticipate the invention recited in Claims 1, 16 and 25, and all claims depending therefrom.

Applicants have also considered Dziekhan and Veres and submit Dziekhan and Veres do not cure the deficiencies of Feinberg. As none of the cited prior art, individually or in combination, disclose or suggest all the elements of independent Claims 1, 16 and 25, Applicants submit the inventions defined by Claims 1, 16 and 25, and all claims depending therefrom, are not rendered obvious by the asserted references for at least the reasons stated above.<sup>4</sup>

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<sup>4</sup> MPEP § 2142 "...the prior art reference (or references when combined) must teach or suggest **all** the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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